

P27135.A06

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Docket No. P27135

Basanth JAGANNATHAN, *et al.*

Confirmation No. 5639

Appln. No. : 10/711,640

Group Art Unit: 2818

Filed : September 29, 2004

Examiner: T. H. Nguyen

For : STRUCTURE AND LAYOUT OF A PRIME CELL

REQUEST FOR PRE-APPEAL BRIEF REVIEW

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Window, Mail Stop AF
Randolph Building
401 Dulany Street
Alexandria, VA 22314
Sir:

This request is being filed concurrently with a Notice of Appeal and is responsive to the Final Official Action of September 20, 2006.

Reconsideration and withdrawal of the 35 U.S.C. § 102(e) rejection and the 35 U.S.C. § 103(a) rejections are respectfully requested in view of the following remarks.

A prima facie case of anticipation has not been set forth and the Rejection Under 35 U.S.C. § 102 Is Improper.

A prima facie case of unpatentability has not been set forth and the Rejections Under 35 U.S.C. § 103(a) Are Improper

Examiner's Assertion

The Examiner asserts that independent claims 14 and 33 are anticipated by US Patent Application Publication No. 2004/0238871 to HERZUM et al.

Applicants' Response

Applicants respectfully disagree.

Independent claim 14 recites:

... a substrate contact formed within the substrate in electrical contact with the source, wherein little or no current flows through the substrate contact.

Independent claim 33 recites:

... a ring substrate contact formed within the substrate in electrical contact with the source.

Regarding claim 14, Applicants do not dispute that HERZUM discloses a sinker or contact 12 that is in electrical contact with the source 14 (see paragraph [0036]). However, HERZUM specifically explains, at paragraph [0036], that current flows from the source to the contact 12. As such, HERZUM cannot be read to disclose that little or no current flows through the substrate contact.

Regarding claim 33, Applicants do not dispute that HERZUM discloses a substrate contact 12 is in electrical contact with the source 14 (see paragraph [0036]). However, HERZUM merely explains (see e.g., paragraph [0036]) that so-called contact 12 is a sinker¹² and not a ring substrate contact. HERZUM simply has not been shown to disclose, or even suggest, a ring substrate contact. Indeed, the Examiner has not even bothered to identify any language in HERZUM which can be read to disclose that the sinker 12 can be a ring substrate contact.

The Examiner is simply not free to ignore the terms “little” in claim 14 or “ring” in claim 33. Furthermore, the Examiner has failed to explain why he may properly disregard these clearly recited features.

Applicants submit that it is apparent from a fair reading the instant Final Office Action that the Examiner does not fully understand the requirements for a proper anticipation rejection. Applicants direct the Examiner’s attention to MPEP 2131.

Rather than complying with the requirements of MPEP 2131, the Examiner has instead chosen to ignore claim features and/or mischaracterize the claim features. The Examiner however must, consistent with MPEP 2131, identify each and every element as set forth in the claim is found, either expressly or inherently described. This has clearly not been done in this case.

Furthermore, to the extent that the Examiner is basing the instant rejection on an argument of inherency consistent with MPEP 2112, Applicants submit that the Examiner has neither stated that the rejection is based on inherency, nor provided any basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

Examiner's Assertion

In support of the anticipation rejection of claim 14, the Examiner argues on pages 2 and 3 that HERZUM teaches that little or no current flows through the substrate contact because paragraph [0036] "explains that there is current flow through the substrate which supports the limitation 'little current flows through the substrate contact'".

Applicants' Response

This assertion is simply unsupported and contrary to the express teachings of HERZUM which provides for a high conductivity connection between the sinker 12 and the source 14. Indeed, Paragraph [0036] of HERZUM specifically explains the following:

[0036] A titanium silicon layer (TiSi layer) 52 is arranged on the surface of the substrate 10 so that it borders on the source 14 and the sinker 12 and at least partially covers the same. As the TiSi layer 52 comprises a high electric conductivity and preferably respectively covers a face as large as possible of the sinker 12 and the source 14, a current flows between the n+-doped source and the p+-doped sinker across the TiSi layer 52 which thus represents a silicide current bridge. A further TiSi layer 54 is arranged on the surface of the substrate 10 so that it borders on the drain 16. The gate 20 is arranged at the surface of the substrate 10 such that it opposes the body area 48 and is only separated from this area by the thin oxide layer 24. The gate 20 is a stack of the polysilicon layer 22 and a further TiSi layer 56 which comprises a lower thickness than the polysilicon layer 22 and is arranged on a side of the polysilicon layer 22 facing away from the substrate 10 (emphasis added).

Such a connection is hardly of the type which will provide that little or no current flows through the substrate contact and the Examiner has not demonstrated otherwise.

Examiner's Assertion

In support of the anticipation rejection of claim 33, the Examiner argues on page 4 that HERZUM shows the recited ring substrate contact 12 in Fig. 1A.

Applicants' Response

This assertion is simply unsupported and contrary to the express teachings of HERZUM. Fig. 1A of HERZUM simply does not show the member 12 as having a shape which even remotely resembles a ring substrate contact. Again, the Examiner is not free to disregard features which are clearly recited.

Examiner's Assertion

The Examiner asserts that the features of claims 15 and 34 can be disregarded because they recite "an operation limitation" which does not structurally define over the HERZUM.

Applicants' Response

Applicants respectfully disagree. These claims do not merely recite a function. Instead, these claims specifically define the substrate contact as being configured to shield the semiconductor device from electrical noise. The ability of the recited substrate contact to provide the shielding is a structural feature and the Examiner is not free to ignore this feature. Accordingly, the Examiner cannot properly disregard the features of claims 15 and 34.

Rather than complying with the requirements of MPEP 2131, the Examiner has instead chosen to ignore claim features. The Examiner however must, consistent with MPEP 2131, identify each and every element as set forth in the claim is found, either expressly or inherently described. This has clearly not been done in this case.

Furthermore, to the extent that the Examiner is basing the instant rejection on an argument of inherency consistent with MPEP 2112, Applicants submit that the Examiner has neither stated that the rejection is based on inherency, nor provided any basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

Examiner's Assertion

The Examiner asserts that dependent claims 18, 19, 31, 32, 37-39, 40 and 41 are obvious over the combination of HERZUM in view of US Patent No. 4,738,936 to RICE because RICE teaches a source finger 60 and a substrate contact 20 that abuts substantially all of one side of the source finger.

Applicants' Response

Applicants respectfully disagree. Reference number 20 in RICE is described as being a P-plus sinker (see col. 4, lines 19-20) and not a substrate contact with little or no current flowing there through. Furthermore, reference number 60 in RICE is disclosed as being a source region (see col. 4, lines 19-20) and not a source finger. Finally, while the Examiner has alleged that RICE teaches a substrate contact 20 that abuts substantially all of one side of the source finger, the Examiner has failed to identify any disclosure in RICE which would support this assertion.

Examiner's Assertion

The Examiner asserts that independent claim 42 is obvious over the combination of HERZUM and RICE because RICE teaches a substrate contact 20/22 that "at least completely

encircles an active region" at col. 2, lines 46-49.

Applicants' Response

Applicants respectfully disagree. As explained above, reference number 20 in RICE is described as being a P-plus sinker (see col. 4, lines 19-20) and not a substrate contact that completely encircles an active region. Contrary to the Examiner's assertions, col. 2, lines 46-49 of RICE does not support the Examiner's assertion. The noted language merely states:

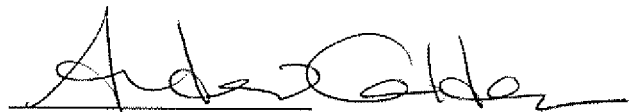
The regions 20 and 22 are diffused to a sufficient depth to reach entirely through the N-minus layer 14 and the P-minus layer 12 to reach into the P-plus substrate 10.

While such language describes the depth of the regions 20 and 22 into the substrate, it does not discuss or describe the regions 20 and 22 as completely encircling an active region. Nor has the Examiner explained how such language can be interpreted to disclose or suggest the recited feature.

CONCLUSION

Reconsideration of the Final Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Respectfully submitted,
Basant JAGANNATHAN, *et al.*



Andrew M. Calderon
Registration No. 38,093

December 19, 2006
Greenblum & Bernstein, P.L.C.
1950 Roland Clarke Place
Reston, Virginia 20191
Telephone: 703-716-1191
Facsimile: 703-716-1180